

# SALINITY

MURDER  
UNDER THE  
MICROSCOPE



These activities will give you and your group some valuable information which might help you when solving the crime.

Look for and collect articles relating to salinity. These might show how widespread and serious salinity issues can be.

## What is salinity?



What do you think salinity is? Write your own definition, then go to a dictionary and refine your definition.

## Identifying salinity

How many types of salinity can you identify?



*Dry bed of a salt lake in South Australia.*



*Wet, saline drainage line where groundwater intersects the land surface.*



*Urban playing field now decommissioned due to rising water table and salt causing soil erosion and plant death, NSW.*



*Saline soil in urban area with only salt-tolerant plants able to survive, NSW.*

All photos are courtesy NSW Department of Primary Industries.



Talk with others. You will be surprised what you'll learn.

## Research



Using the internet, newspapers and other sources of information find out about salinity.

Search for answers to these questions:

1. How is water under the ground affected by rainfall and irrigation?
2. What else might affect the amount of water in the ground?
3. When you have done some research, write your own definition of 'watertable'.
4. How does salinity affect the environment?
5. What is evapotranspiration?
6. How do trees prevent salinity from developing?
7. What effect does irrigation have on soil, groundwater and rivers?

Think about:

- Why might high salt levels in rivers be a problem?
- Where is salinity a problem in the Australian environment?

Using the internet, newspapers and other sources of information find out which areas of Australia show signs of dry land salinity. You may be able to locate a map.

## Extension: Would anything grow there?

Select an area under threat from dry land salinity. Find out what you can about the area. Has the land been cleared for farming or grazing? If so, what grows there now? Does the kind of crop grown make a difference to the amount of water retained in the soil? Explain.

1. Is the area irrigated? Is the rainfall high or low?
2. What happens to the water?
3. What is a solution to this dryland salinity?

## Extension: What does salt do to the water?

Try these experiments.

- Put a tablespoon of water and a teaspoon of salt in a container and mix. What happens?
- Put the container in a sunny spot and leave it for a few days. What happens?
- Mix a tablespoon of clean sand with a tablespoon of salt and half a cup of water. Pour the solution on a plant – preferably a weed. After a day or two find out what has happened to the plant.

Record your findings.

## Activity: Salty soil



You will need to set up this experiment and leave it for about 3 days. (Note: the number of days could vary, depending on the weather.) Once you have your results, answer the questions at the end of each experiment.

This activity appears on the Queensland Government Natural Resources and Water website.

[http://www.derm.qld.gov.au/education/teachers/land/resources/land\\_resource\\_sheet\\_03.pdf](http://www.derm.qld.gov.au/education/teachers/land/resources/land_resource_sheet_03.pdf)

For seniors and teachers:

[http://www.derm.qld.gov.au/education/teachers/land/resources/land\\_resource\\_sheet\\_04.pdf](http://www.derm.qld.gov.au/education/teachers/land/resources/land_resource_sheet_04.pdf)



# Sharing information



What have you found out that might help you understand the crime? Share this information with the other groups.

You will need to explain how salinity occurs and what effect it has. You might want to use a diagram to help you explain.

## Salinity resources

[http://www.derm.qld.gov.au/education/teachers/land/resources/resource\\_book\\_a.pdf](http://www.derm.qld.gov.au/education/teachers/land/resources/resource_book_a.pdf)

[http://www.derm.qld.gov.au/education/teachers/land/resources/resource\\_book\\_b.pdf](http://www.derm.qld.gov.au/education/teachers/land/resources/resource_book_b.pdf)

<http://www.environment.nsw.gov.au/resources/salinity/Book1DrylandSalinity.pdf>

<http://www.science.org.au/nova/032/032key.htm>

[http://www.pir.sa.gov.au/\\_data/assets/pdf\\_file/0006/49785/saltcaus.pdf](http://www.pir.sa.gov.au/_data/assets/pdf_file/0006/49785/saltcaus.pdf)

<http://www.abc.net.au/science/slab/salinity/default.htm>

<http://www.environment.gov.au/land/pressures/salinity/index.html>

<http://lwa.gov.au/files/products/national-land-and-water-resources-audit/pr010108/pr010108.pdf>